Case studies

John, Robyn and Andrew Watson, 'Kilmarnock', Boggabri NSW

PROPERTY DETAILS

Location: Boggabri, north-west New South Wales

Catchment: Namoi River

Property area: 1,500 hectares, plus leased country

Main enterprises: Grain, cotton and beef cattle production

Where lippia is a problem: Floodplain grazing country, river riparian zone

General view of native pasture country, with only a few lippia patches following herbicide treatment

(Photo by P. Crawford)

General information and lippia infestation

The property is located on the floodplain of the Namoi River, five kilometres from the town of Boggabri. Approximately 50% of the property is cropped and beef cattle graze a mix of native and introduced pastures, predominantly Bambatsi panic. Native pastures dominate on the river country and the higher ground has been sown to Bambatsi. The Watsons are very impressed with the competitive ability of Bambatsi, if a good establishment is achieved.

The historical stocking rate is 300 cows but this is currently down to 100 due primarily to drought. The average stocking rate on the unfertilised native pastures of the floodplain was 3.7 DSE per hectare. Grazing management is on a rotational basis, with all grass paddocks having lengthy rest periods after stocking.

Lippia was first noticed in the region after floods in the mid 1970s. Lippia occurs commonly in flood runners (low-lying waterways or channels) and is increasing in incidence across the floodplain, as well as on higher ground. Lippia has a relatively patchy distribution across the property as a result of the management programme. It is estimated that the total area of lippia on the property is approximately 80 hectares.

The riparian strip of the river has been fenced to exclude livestock and a tree regeneration programme has been initiated. The dominant grass species in this strip is the highly palatable Queensland blue grass. Immediately outside the fenced area in the grazed pasture, there is a lower percentage cover of blue grass and here lippia occurs frequently.

Small patches of lippia are apparent throughout both introduced and native pasture country

(Photo by P. Crawford)

Methods of lippia management

A very intensive chemical control programme is the main factor that has prevented lippia spreading across a wider area of the property. A concentrated effort is made to suppress lippia in flood runners and depressions where it predominates. Flood runners are sprayed regularly with 2,4 D and more recently with Agricrop Lantana® 600. Robyn has a quad-runner set up with a spot sprayer and regularly carries out a planned spraying regime when the lippia is most susceptible.

The spraying programme has been successful but is only just keeping ahead of the lippia. The drought hasn't helped as lippia needs to be actively growing and fresh for good results so the spraying windows have not been very regular over the last few years. The country that has been sprayed on a regular basis does not have a severe lippia problem. The weed is present but there is also plenty of grass. Repeat sprays are usually necessary two to three times per year.

In the first year 30 hectares were sprayed and in 2005 approximately 80 hectares were sprayed at an average chemical cost of $30/ha. This constant concentrated effort at suppressing patches of lippia where they occur has reduced the rate of spread across the property however lippia continues to spread into continuously grazed pastures on the floodplain and higher ground.

John has also carried out some boomspraying in selected areas, although the proximity of the river prevents the use of chemical in immediately adjacent paddocks. One of these paddocks has been ploughed to control the lippia and is currently being cropped to wheat or oats for the cattle. The paddock was ploughed many years ago but allowed to return to native pasture which over time was taken over by lippia. The paddock will probably be planted down to Bambatsi over the next couple of years.

In the fenced riparian area, grasses are slashed annually to reduce competition for newly planted trees. Where grasses have been slashed regularly and 100% groundcover has been retained the presence of lippia is minimal, suggesting that maintaining a healthy groundcover and vigorous perennial grasses is an effective method to restrict the establishment of lippia.

Future control options

John is considering that they may have to plough up some of the river country to completely eradicate the weed, but this could pose some serious soil erosion risks if a flood occurs prior to the re-establishment of pasture.

John is interested in the cell grazing concept and it is possible that this type of system could be introduced in future years nevertheless an intensive farming programme may limit the adoption of cell grazing due to the time commitments needed to implement it.

The farming country is managed with a minimum-till system but as the family move to a complete zero-till operation it is possible for lippia to start to encroach on the cultivation country. If this occurs it may be necessary to introduce strategic cultivations as part of the system.

Ongoing chemical control will depend on the availability of suitable products, which at the moment are only available through a permit that expires in mid 2008.